

APPLIED SUPERCONDUCTIVITY

VOLUME 1 1993

**VOLUME CONTENTS
AND AUTHOR INDEX**



PERGAMON PRESS
OXFORD · NEW YORK · SEOUL · TOKYO

APPLIED SUPERCONDUCTIVITY

EDITOR-IN-CHIEF

DR ROGER B. POEPEL

Editorial Office

67 Stephanie Lane, Glen Ellyn, IL 60137, U.S.A.

Fax: 708-469-1504

EDITORIAL BOARD

N. MCN ALFORD, *Runcorn*

G. BOGNER, *Erlangen*

Y. BRUYNSERAEDE, *Leuven*

A. CAMPBELL, *Cambridge*

C. W. CHU, *Houston, TX*

J. R. CLEM, *Ames, IA*

E. W. COLLINGS, *Columbus, OH*

J. E. CROW, *Tallahassee, FL*

T. HARA, *Tokyo*

E. L. HERSHBERG, *Beaverton, OR*

K. P. JÜNGST, *Karlsruhe*

H. MAEDA, *Ibaraki*

F. C. MOON, *Ithaca, NY*

H. OGIWARA, *Kawasaki*

C. N. R. RAO, *Bangalore*

R. ROBERGE, *Quebec*

S. SCHOENUNG, *Livermore, CA*

S. W. VAN SCIVER, *Tallahassee, FL*

K. TACHIKAWA, *Kanagawa*

H. TAMURA, *Atsugi*

S. TANAKA, *Tokyo*

Publishing Office

Pergamon Press Ltd, Pergamon House, Bampfylde Street, Exeter EX1 2AH, England
(Tel. Exeter (0392) 51558; Fax (0392) 425370).

Subscription and Advertising Offices

North America: Pergamon Press Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, U.S.A.

Rest of the World: Pergamon Press Ltd, Headington Hill Hall, Oxford OX3 0BW, England
(Tel. Oxford (0865) 794141).

Subscription Rates

Annual institutional subscription rate (1993): £345.00 (US\$552.00). Sterling price is definitive. U.S. dollar price is quoted for convenience only, and is subject to exchange rate fluctuation. Prices include postage and insurance and are subject to change without notice. Subscription rates for Japan are available on request.

Back Issues

Back issues of all previously published volumes, in both hard copy and on microform are available direct from Pergamon Press offices.

Published monthly. Copyright © 1993 Pergamon Press Ltd

Application to mail at second class postage rate is pending at RAHWAY NJ. Postmaster send address corrections to *Applied Superconductivity*, c/o Pergamon Press Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, U.S.A.

VOLUME CONTENTS

Volume 1 Number 1/2

Editorial

iii

General Papers

- | | |
|---|---|
| R. Pinto, P. R. Apte, Navdeep Goyal,
L. C. Gupta, R. Vijayaraghavan,
K. Easwar and B. K. Sarkar | 1 Power and temperature dependence of Q factor of a double
sided thin film $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ microstrip resonator |
| A. M. Marsh, R. J Bennett and
M. S. Goodchild | 7 Microwave characterization of a low T_c superconducting
microstrip |
| Jerry A. Selvaggi, Thomas Kranyecz
and Sam Bell | 13 A 124" warm bore superconducting ironclad high gradient
magnetic separator |
| C.-H Hsu and N. A. Gokcen | 19 Effects of oxygen on bismuth-type oxide superconductors |
| Y. C. Guo, H. K. Liu and S. X. Dou | 25 Effect of a controlled melt process on phase transformation
and electromagnetic properties of $\text{BiPbSrCaCuO}/\text{Ag}$ super-
conducting wires |
| C.-T. Wu, K. C. Goretta and
R. B. Poeppel | 33 Effects of processing parameters on critical current density
of Ag-clad $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_x$ tapes |

Selected Papers Presented at

Bulk Processing and Critical Current Density of High T_c Superconductors

- | | |
|--|--|
| Jun-Ichi Shimoyama, Kazuo Kadowaki
Hitoshi Kitaguchi, Hiroaki Kumakura,
Kazumasa Togano, Hiroshi Maeda
and Katsumi Nomura | 43 Processing and fabrication of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_7/\text{Ag}$ tapes and
small scale coils |
| Ming Xu, J. Polonka, A. I. Goldman
and D. K. Finnemore | 53 Investigations of crystalline phases in the melting of
$\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_x$ |
| Donglu Shi | 61 Transport critical currents and grain boundary weak links
in bulk $\text{YBa}_2\text{Cu}_3\text{O}_x$ |
| V. Chakrapani, D. Balkin and P. McGinn | 71 The effects of second phase additions (SiC , BaZrO_3 ,
BaSnO_3) on the microstructure and superconducting prop-
erties of zone melt textured $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ |

- | | |
|--|---|
| D. Y. Kaufman, M. T. Lanagan,
S. E. Dorris, J. T. Dawley, I. D. Bloom,
M. C. Hash, N. Chen, M. R. DeGuire
and R. B. Poeppel | 81 Thermomechanical processing of reactively sintered Ag-clad
(Bi, Pb) ₂ Sr ₂ Ca ₂ Cu ₃ O _x tapes |
| S. Wu, J. Schwartz, J. C. Rynes
and C. A. Gianino | 93 Optimization of processing conditions for bulk ceramic Li
doped BSCCO |
| J. S. Luo, N. Merchant, V. A. Maroni,
D. M. Gruen, B. S. Tani, W. L. Carter
and G. N. Riley Jr | 101 Kinetics and mechanism of the (Bi,Pb) ₂ Sr ₂ Ca ₂ Cu ₃ O ₁₀
formation reaction in silver-sheathed wires |
| B.-S. Hong, T. O. Mason, C. K. Chiang,
S. W. Freiman and N. M. Hwang | 109 Bulk processing of the (Bi,Pb) ₂ Sr ₂ Ca ₂ Cu ₃ O _y superconduct-
ing oxide by orthogonal array |
| Dean J. Miller and Terry G. Holesinger | 121 Quantitative energy dispersive X-ray analysis of Bi-Sr-Ca-
Cu-O compounds using standards |
| Y. Gao, C.-T. Wu, Y. Shi, K. L. Merkle
and K. C. Goretta | 131 TEM study of grain boundaries in Ag-clad Bi ₂ Sr ₂ CaCu ₂ O _x
tapes |
| Hong Zhang and Vinayak P. Dravid | 141 Transmission high energy electron energy loss spectrometry
(EELS) of cuprate superconductors |
| M. E. Smith, Donglu Shi, S. Sengupta
and Z. Wang | 151 Effective flux-creep activation energy and anisotropy in a
Bi ₂ Sr ₂ CaCu ₂ O _x single crystal |
| Hai-Woong Park and Shome N. Sinha | 157 YBa ₂ Cu ₃ O _{7-x} superconductors via oxide precursor
containing BaCuO _{2.5} |

Volume 1 Number 3-12

WORLD CONGRESS ON SUPERCONDUCTIVITY

Proceedings of the 3rd International Conference and Exhibition

Volume 1 Number 3-6

Part I

Kumar Krishen

XVII Introduction

I. Plenary Session

V. Ozhogin

165 Status of superconductivity in the Commonwealth of
Independent States

Tsuneo Nakahara	177	Review of Japanese R&D on superconductivity
Dong-Yeon Won and Hee-Gyoun Lee	191	Current status on the superconductivity research in Korea
Al-Kang Li	199	High- T_c superconductivity status in the Republic of China
Z. Z. Sheng	207	Research on TI-based superconductors at the University of Arkansas

II. Summary of Roundtable Discussion

Tsuneo Nakahara	213	Summary of the Roundtable Discussion
Wei-Kan Chu	217	Summary of the talk at the Roundtable Discussion
H. Echardt Hoenig	219	Summary of the talk at the Roundtable Discussion
I. Z. Kostadinov	223	Higher T_c materials and the transport in the I-M-S region
Kishin Moorjani	227	Summary of the talk at the Roundtable Discussion
Masato Murakami	229	Summary of the talk at the Roundtable Discussion

III. Physical Properties

N. M. Plakida	231	Modern trends in the theory of high-temperature superconductivity
W. E. Pickett, H. Krakauer and R. E. Cohen	251	Electron-phonon coupling in high temperature superconductors: the connection to superconducting behavior
Stanford R. Ovshinsky	263	A mechanism for high temperature superconductivity
V. Metlushko, G. G��ntherodt, V. V. Moshchalkov, Y. Bruynseraede and M. M. Lukina	269	Lower critical fields, critical currents and flux creep in $Pb_2Sr_2RE_{1-x}Ca_xCu_3O_{8+y}$ ($RE = Y, Dy$) single crystals
M. Mehring, P. Gergen, J. Gro��, N. Winzek, A. Yakubovskii and S. Verkhovskii	279	Nuclear spins as probes for charge and spin dynamics in high T_c superconductors

C. Vettier, J. Rossat-Mignod,
L. P. Regnault, P. Bourges, P. Burllet,
J. Y. Henry and G. Lapertot

293 Neutron scattering study of the $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}\text{HTc}$ superconductors

Setsuko Tajima

313 Optical properties of high- T_c superconducting cuprates and other strongly correlated systems

Y. Yeshurun, L. Klein, E. R. Yacoby,
Y. Wolfus, M. Konczykowski, G. Koren
and F. Holtzberg

323 Effects of irradiation on magnetization curves in high temperature superconductors

J. Karpinski, H. Schwer, K. Conder,
F. Jilek, E. Kaldis, C. Rossel, H. P. Lang
and T. Baumann

333 High oxygen pressure ($\text{Po}_2 < 3000$ bar) synthesis and properties of YBaCuO phases

Bal K. Agrawal, Sudhir Kumar,
S. Agrawal and P. S. Yadav

351 Theoretical evidence for correlation between hole density and T_c in high- T_c $\text{Ti}_2\text{Ba}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_{2n+4}$ superconductors

V. Ozhogin, N. Babushkina,
A. Inyushkin, A. Taldenkov and
L. Molchanova

359 Anomalous enhanced oxygen isotope effect in $\text{La}_{1.85}\text{Sr}_{0.15}\text{CuO}_4$ doped with Fe

J. G. Ossandon, J. R. Thompson,
D. K. Christen, Y. R. Sun, B. C. Sales,
H. R. Kerchner, J. E. Tkaczyk and
K. W. Lay

371 Properties of aligned $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ superconductor as a function of oxygen deficiency δ

Xavier Oudet

381 Ionic compounds

Poster Session

V. V. Moshchalkov, L. Gielen,
H. Vloeberghs, M. Dhallé, G. Neuttiens,
R. Jonckheere, C. Van Haesendonck and
Y. Bruynseraede

391 Field enhanced superconductivity in mesoscopic loops

A. P. Zhernov, E. P. Chulkin,
T. A. Mamedov and T. N. Kulagina

399 Partial factors of isotopic shifts for T_c in compounds 2-1-4 and 1-2-3

Bal K. Agrawal, J. S. Negi, S. Agrawal
and P. S. Yadav

405 Phonons and specific heat of electron high T_c $\text{Nd}_{1.85}\text{Ce}_{0.15}\text{CuO}_4$ superconductor

V. V. Moshchalkov, M. Dhallé and
Y. Bruynseraede

411 An alternative description of the vortex state in superconductors

G. V. Sotnikov and A. A. Nikonov

419 Nonunique distribution of magnetic flux in granular $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$

- | | |
|---|--|
| Bal K. Agrawal, J. S. Negi,
Savitri Agrawal and P. S. Yadav | 427 Phonons and specific heat in high T_c $Tl_{1(2)}Ba_2Ca_{n-1}Cu_nO_{2n+3(4)}$ superconductors |
| Bal K. Agrawal and S. Agrawal | 437 Electron structure of $CaCuO_2$ |
| Bal K. Agrawal, J. S. Negi,
Savitri Agrawal and P. S. Yadav | 445 Vibrational excitations and specific heat of Sr-doped $CaCuO_2$ |
| S. H. Han, X. Dai and Z. J. Ren | 451 Effect of pressure on superconductivity of Bi-Pb-Sr-Ca-Cu-O |
| Yu. A. Teterin and M. I. Sosulnikov | 457 X-ray photoelectron studies of oxygen states in metaloxide ceramics for HTSC |
| V. B. Anzin, B. P. Gorshunov,
G. V. Kozlov, A. A. Volkov,
S. P. Lebedev, I. V. Fedorov,
J. Schutzmann and K. F. Renk | 467 Measurement of electrodynamic parameters of superconducting films in far-infrared and submillimeter frequency ranges |

IV. High Temperature Materials

(A) New materials and T_c optimization

- | | |
|---|---|
| M. Takano, Z. Hiroi and M. Azuma | 479 Superconductivity in the alkaline earth-copper-oxygen system with $T_c = 110$ K |
| Shinichi Kikkawa, Gang Er and
Fumikazu Kanamaru | 487 High pressure synthesis and superconductivity of infinite layered $Sr_{1-x}La_xCuO_2$ |
| Mark T. Anderson and
Kenneth R. Poeppelmeier | 493 Structural similarities among cuprate superconductors |
| H. Ihara, S. Ishibashi, N. Terada and
M. Hirabayashi | 503 Synthesis and characterization of new $TlBa_2M_{n-1}Cu_nO_{2n+3}$ ($M = Sr_{1-x}Ca_x, Ba_{1-x}Sr_x$) superconductors |
| C. Namgung, A. B. Sheikh, A. A. Finch
and J. T. S. Irvine | 511 Possible superconductivity in the Mg-Ti-O system |
| N. Brnčević, I. Bašić, P. Planinić,
B. Gržeta, M. Tonković, M. Forsthuber,
G. Hilscher, T. Holubar, H. Michor,
H. Kirchmayr and G. Schaudy | 519 Phase transformation in the system $Sr_2Ln_{1-x}Ce_xMCu_2O_{8+\delta}$ ($Ln = \text{rare earth}, M = Nb, Ta$) and superconductivity |
| M.-J. Tsai, S. F. Wu, S. W. Lu,
Y. T. Huang and R. S. Liu | 527 T_c enhancement of the (Tl, Pb, Bi)-Sr-Ca-Cu-O and Tl-Ba-Ca-Cu-O systems |

Ravi Chandra Gundakaram and
S. V. Suryanarayana

535 Effect of heat treatments and additives on the superconducting behaviour of the Bi (2223) phase

(B) Oxygen nonstoichiometry, solid solution and phase diagram

Kazuo Fueki and Yasushi Idemoto

549 Oxygen content and its related properties of high T_c superconductors

E. Özdaş, Ş. Özcan, D. Ülkü and T. Fırat

559 Effects of the oxygen uptake on the crystal structure of 110 K BiPbSrCaCuO superconductor

K. Kitazawa, T. Nagano, Y. Nakayama,
Y. Tomioka and K. Kishio

567 Is $(La, Sr)_2CuO_4$ solid solution a homogeneous superconductor?

J. C. Tolédano, P. Strobel, D. Morin,
J. Schneek, G. Vacquier, O. Monnereau,
V. Barnole, J. Primot and T. Fournier

581 Phase diagram of the system $Bi_{1.6}Pb_{0.4}Sr_2CuO_6$ - $CaCuO_2$ above 825°C

T. Łada, A. Paszewin, R. Moliński,
A. Morawski and W. Pachla

591 Investigation of phase stability within the YBCO system under pressure of nitrogen and argon

A. Morawski, R. Moliński, A. Paszewin,
T. Łada and W. Pachla

599 Material synthesis and crystal growth of HTC ceramics and single crystals under high pressure

A. Srinivasa Rao

607 Properties of superconducting $YBa_2Cu_3O_{6+x}$ ceramic materials: effect of processing parameters

(C) Anisotropy, alignment and superconducting properties

F. X. Régi, J. Schneek, H. Savary,
R. Mellet and C. Daguet

627 Resistivity anisotropy in lead-substituted $Bi_2Sr_2CaCu_2O_{8+y}$

H. Ikuta, Y. Nakayama, N. Hirota,
K. Kishio and K. Kitazawa

635 Giant magnetostriction of cuprates in superconducting state

O. Kohno, Y. Iijima, K. Onabe,
N. Futaki, N. Sadakata, N. Tanabe
and Y. Ikeno

645 Improvement of Jc-B characteristics in biaxially aligned Y-Ba-Cu-O thin films on metallic substrate

K. V. Rao, I. V. Zakharchenko and
R. Puźniak

653 Orientational disorder and critical current enhancement in high- T_c superconductors

(D) Chemical changes and processes

A. M. Grishin, G. V. Gusakov and
A. N. Ulyanov

667 Selective etching of YBCO targets by ion-plasma sputtering

Liana Marta, Maria Zaharescu,
Lelia Clontea and Traian Petrisor

677 Chemical route to the synthesis of superconducting bismuth oxide system

V. Fruth, Maria Zaharescu and G. Aldica

693 Promotion of high- T_c phase in B-doped $(\text{Bi, Pb})_2\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_y$ superconductors prepared by the melt-quenching method

V. Fabrication Methodology

R. Flükiger, B. Hensel, A. Jeremie,
A. Perin and J. C. Grivel

709 Processing of classical and high T_c superconducting wires

A. Srinivasa Rao

725 Processing and property evaluation of $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ /aluminum-composites

T. Brylewski and K. Przybylski

737 Physicochemical properties of high- T_c (Bi,Pb)-Sr-Ca-Cu-O and Y-Ba-Cu-O superconductors prepared by sol-gel technique

W. Pachla, R. Moliński, T. Łada,
A. Paszewin and A. Morawski

745 Thick textured films of Bi-type ceramics by hot pressing

VI. Thin Films

X. Z. Xu, M. Viret, H. Tebbji and
M. Laguès

755 Layer by layer growth of epitaxial films of $\text{Bi}_2\text{Sr}_2\text{CuO}_6$: structural and electrical properties related to the oxidation level

Sylvaine Kerboeuf,
Jean-Claude Tolédano, Valérie Barnole,
Hervé Savary, Arlette Litzler,
Denise Morin and Claude Daguet

761 Insulating materials for BiSrCaCuO-multilayers

Tadataka Morishita

769 Advances in high T_c superconducting thin film research at SRL-ISTEC

A. M. Grishin, G. V. Gusakov,
A. B. Mukhin, B. Vengalis and
A. Flodström

779 Lattice interaction of low and high-temperature phases in nonstoichiometric Bi-Sr-Ca-Cu-O films

M. R. Predtechensky

793 Laser deposition in oxygen of HTSC films: expansion of laser plasma, deposition of particles, formation of crystal structure and superconducting properties of films

Hee-Gyoun Lee, Soon-Dong Park,
Chan-Joong Kim, Gye-Won Hong,
In-Soon Chang and Dong-Yeon Won

807 Preparation of superconducting YbBaCuO and YBaCuO films by chemical vapor deposition at 650°C

J. Y. Juang, K. H. Wu, T. C. Lai,
M. H. Lee, M. C. Hsieh, T. M. Uen
and Y. S. Gou

815 In-situ deposition of superconducting YBCO films on Si
with ceramic buffer layers

M. Schieber, Y. Ariel, A. Raizman
and S. Rotter

827 Correlation between structural and superconducting prop-
erties of thin films of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ by pulsed laser and
chemical deposition methods

L. Pöst, M. Jirsa, R. Griessen and
H. G. Schnack

835 Critical current relaxation in epitaxial thin YBaCuO films
in changing and constant field

Poster Session

V. Lacquaniti, S. Maggi, E. Monticone
and R. Steni

845 Effect of vacuum annealing on superconducting properties
of niobium films

Lelia Ciontea, Traian Petrisor and
Alin Giurgiu

853 DC-sputtered high T_c superconducting YBCO thin films on
silicon substrates

Jacob Azoulay

859 Low-temperature crystallization of high T_c Y-Ba-Cu-O
thin films by resistive evaporation

Volume 1 Number 7-9

Part II

VII. C_{60} Based Superconductors

J. L. Margrave

867 C_{60} , C_{70} and other fullerenes: a new class of materials yields
versatile organic superconductors

R. F. Curl

869 Formation and chemistry of the fullerenes

N. Yoshiyama, H. Yamamoto and
M. Tanaka

879 A_xC_{60} thin film with electrochemically doped alkali metals

James Sawyer

883 A icosahedral six dimensional valence bond order in
superconductive crystals

M. Kraus, M. Baenitz, M. Kanowski,
E. Straube, E.-W. Scheidt, S. Gärtner,
H. M. Vieth, H. Werner, R. Schlögl,
W. Krätschmer and K. Lüders

901 Superconductivity of C_{60} compounds

Lon J. Wilson, Scott Flanagan,
Valery Khabashesku, Michael Alford,
Felipe Chibante, Michael Diener,
Chad Fargason and Eric Roche

913 Electrochemical studies and syntheses of fulleride-derived
materials

VIII. Weak Link

- T. Grenet and M. Cyrot 925 Effect of weak links in n-type superconducting ceramics
- D. Fiorani, A. M. Testa and J. Tejada 935 Flux motion in Bi and Tl-based superconductors
- V. Stepankin and A. Kuznetsov 947 Weak link behavior of single grain boundary Josephson junction in $\text{BaPb}_{1-x}\text{Bi}_x\text{O}_3$ bicrystals
- A. Gerber, Z. Tarnawski,
J. J. M. Franse, J. N. Li and
A. A. Menovsky 961 Flux jumps in high T_c single crystals
- A. N. Ulyanov, V. N. Korenivski,
K. V. Rao and A. M. Grishin 971 Influence of direct and alternating transport current on the diamagnetic response of Bi-based ceramics

IX. Granular Superconductors

- A. Gerber 985 High T_c ceramics: model of granular superconductors
- P. Pureur, L. Ghivelder, P. Rodrigues Jr
and S. Reich 995 Resistive transition and paraconductivity in YBaCuO-Ag composites
- P. E. Kazin, T. E. Os'kina and
Yu D. Tretyakov 1007 AC susceptibility weak link characterization in the Bi-Pb-Ca-Sr-Cu-O thick films on (in) Ag tape
- B. Ropers, F. Carmona and S. Flandrois 1015 A unified approach of weak link effects in YBaCuO ceramics and YBaCuO-Ag random composites
- F. V. Kusmartsev 1019 Orbital glass in HTSC
- Poster Session*
- S. Demyanov, V. Gatal'skaya,
L. Kurochkin and I. Starchenko 1029 Flexible multilayer HTSC coatings on metallic tapes

X. Performance Characterization

- A. Schmidt, F. Stellmach, M. Boekholt,
S. Ewert, K. N. R. Taylor and D. Elefant 1033 Thermal expansion and magnetostriction of high temperature superconductors
- P. Drotbohm, R. Abeles, G. J. Russell,
A. Bailey, G. Alvarez and K. N. R. Taylor 1043 Low frequency (5 MHz) impedance measurements of isolated and weakly-coupled thick film YBCO microstriplines
- Jincang Zhang, Fengqi Liu,
Junzheng Liu, Shixun Cao and
Hansheng Guo 1055 Electronic behavior of YBaCuO(123) superconductors with varying oxygen content studied by positron-lifetime spectrum

- Ravi Kumar, S. K. Malik, R. Pinto,
R. Vijayaraghavan and Dhanjay Kumar 1061 Flux creep in $\text{YBa}_2\text{Cu}_3\text{O}_{7-y}$ thin films induced by self-field of the transport current
- R. B. Flippen 1071 AC inductance measurements of high temperature superconductors
- Ali E. Khalil 1081 Lattice structure, flux dynamics, and low frequency noise in high temperature superconductors
- J. Hagberg, A. Uusimäki and
S. Leppävuori 1091 Performance characterisation of superconducting (Bi,Pb)-Sr-Ca-Cu-O thick films
- Donggeun Ko, Ju Yeol Lee,
James O'Brien, H. Oesterreicher
and R. D. Taylor 1099 Superconducting and magnetic properties of materials with varying clustering in $\text{YBa}_2(\text{Cu}_{1-x}\text{M}_x)_3\text{O}_7$ with $\text{M} = \text{Fe, Co, Ni}$
- M. Viret, J. F. Lawler and J. M. D. Coey 1103 Transport properties of BiSrCaCuO thin films
- Ravi Kumar, C. V. Tomy, A. K. Grover
and S. K. Malik 1115 Determination of irreversibility line in hard type-II superconductors: path dependence of field-cooled magnetization
- Poster Session*
- Robert I. Shekhter,
Alexandre M. Zagoskin
and Göran Wendin 1123 Oxygen diffusion and dynamical disorder in high- T_c superconductors: low frequency noise in superconducting tunnel junctions
- V. Veselago, V. Rubtsov, Yu. Yakovets
and V. Stepankin 1133 Shielding characteristics of the high- T_c ceramic hollow cylinders

XI. Persistent Magnetic Fields

- H. Yamamoto, M. Chiba,
T. Ogasawara, M. Tanaka,
M. Morita and M. Hashimoto 1139 Giant flux jump of YBaCuO superconductor and application to permanent magnet
- R. Weinstein, I. G. Chen, J. Liu,
R. Narayanan, Y. R. Ren, J. Xu,
V. Obot and J. Wu 1145 Materials, characterization, and applications for high T_c superconducting permanent magnets
- Masato Murakami 1157 Novel application of high T_c bulk superconductors
- Francis C. Moon, Czesław Golkowski
and David Kupperman 1175 Superconducting bearings for high load applications
- Hiroyasu Ogiwara, Teruo Azukizawa and
Mimpei Morishita 1185 A novel use of superconducting oxides in a non-contact carrier for VLSI plants

Poster Session

- S. Gauss, S. Elschner and H. Eckhardt 1193 Magnetic properties of large melt processed Y-Ba-Cu-O cylinders
- K. Rogacki, C. Sulkowski, W. Sadowski, E. Walker and M. Peter 1205 Magnetization and critical currents of $\text{Nd}_{2-x}\text{Ce}_x\text{CuO}_{4-y}$ single crystals
- A. Giurgiu and T. Petrisor 1213 Critical current distribution in long YBaCuO macrobridges
- Traian Petrisor, Alin Giurgiu and Lelia Ciontea 1219 Magnetic field dependence of critical current in YBCO-Ag composite system
- G. K. Bichile, K. M. Jadhav, R. L. Raibagkar, Suchitra Chari, D. G. Kuberkar and R. G. Kulkarni 1227 Critical currents and flux creep in vanadium doped $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ system

XII. Space Applications

- Denis J. Connolly, Robert R. Romanofsky, Paul Aron and Mark Stan 1231 Opportunities for superconductivity in future space exploration programs: (a hydrogen economy for the 21st century)
- I. A. Carlberg, W. C. Kelliher, S. A. Wise, M. W. Hooker and J. D. Buckley 1251 Environmental considerations for application of high T_c superconductors in space
- W. K. Chu, K. B. Ma, C. K. McMichael and M. A. Lamb 1259 Applications of high temperature superconductors on levitation bearings and other levitation devices
- R. Decher, P. N. Peters, R. C. Sisk, E. W. Urban, M. Vlasse and D. K. Rao 1265 High temperature superconducting bearing for rocket engine turbopumps
- J. J. Neumeier, M. W. McElfresh, Lifang Hou and A. Lewicki 1279 Enhancement of T_c in $\text{YBa}_2\text{Cu}_3\text{O}_7$ by chemical substitution in bulk and thin film materials: implications for the upper critical magnetic field
- R. K. Pandey, K. K. Raina and N. Solayappan 1289 Growth of 2122-phase of Bi-Ca-Sr-Cu-O superconducting films by LPE process and possibility of its growth in microgravity environment
- M. W. Hooker, T. D. Taylor, H. D. Leigh, S. A. Wise, J. D. Buckley, P. Vasquez, G. M. Buck and L. P. Hicks 1303 Nonaqueous slip casting of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ ceramics
- Christopher L. Lichtenberg, William J. Meyers, Thomas G. Kawecki, Amey R. Peltzer, Mark S. Johnson, Martin Nisenoff and George E. Price 1313 The High Temperature Superconductivity Space Experiment (HTSSE)

- | | | |
|--|------|--|
| D. Andreone, V. Lacquaniti, S. Maggi,
E. Monticone, R. Steni and F. Taiariol | 1333 | Properties of r.f. sputtered niobium thin films for metro-
logical applications |
| R. F. Leonard, K. B. Bhasin,
R. R. Romanofsky, C. D. Cabbage
and C. Z. Chorey | 1341 | Space applications of superconducting microwave
electronics at NASA Lewis Research Center |
| P. Ngo, K. Krishen, D. Arndt, G. Raffoul,
V. Karasak, K. Bhasin and R. Leonard | 1349 | A high temperature superconductivity communications
flight experiment |
| S. A. Wise, J. D. Buckley, I. Nolt,
M. W. Hooker, G. H. Haertling,
R. Selim, R. Caton and
A. M. Buoncristiani | 1363 | High-Tc thermal bridges for space-borne cryogenic infrared
detectors |
| <i>Poster Session</i> | | |
| S. Maggi, E. Menichetti, G. Rinaudo and
M. Vanolo | 1373 | Characterization of Nb microstrip sensors for nuclear
radiation detection |
| S. M. Vatrik | 1379 | Current-voltage characteristics of thin HTSC films |

XIII. Superconducting Magnetic Energy Storage

- | | | |
|---|------|--|
| Philip D. Baumann | 1395 | SMES—an opportunity for global energy, economic and
environmental integration |
| Philip Baumann | 1399 | Superconducting magnetic energy storage. Energy
efficiency, conservation and environmental benefits |
| R. W. Boom and M. Masuda | 1403 | SMES design and use, Part 1 |
| M. Masuda and R. W. Boom | 1417 | SMES design and use, Part 2 |
| John G. De Steese, Jeffery E. Dagle,
Dennis K. Kreid, John M. Haner and
Walter E. Myers | 1425 | Benefit/cost comparisons of SMES in system-specific
application scenarios |
| A. D. Patton | 1435 | Effect of energy storage on generating unit availability and
system capacity requirements |
| Susan M. Schoenung | 1443 | Survey of U.S. SMES development programs |

Volume 1 Number 10-12

Part III

XIV. Accelerator Technology

- | | | |
|---|------|---|
| S. Wolff | 1457 | Operational experience with large superconducting magnet
systems |
| T. O. Bush, D. C. Allen, R. W. Coombes,
R. J. Malnar, P. A. Sanger and
J. C. Tompkins | 1471 | Status of the SSC superconducting magnets |
| Romeo Perin | 1487 | Status report on the LHC magnets |

XV. Wire Fabrication Technology

- L. R. Motowidlo, P. Haldar, J. Hoehn, J. Rice and M. S. Walker 1503 Fabrication and transport properties in $\text{Bi}_{1-x}\text{Pb}_x\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_y$ monocoire and multicore superconductors
- S. X. Dou, H. K. Liu, Y. C. Guo, X. J. Jin, Q. Y. Hu, D. L. Shi, S. Salem-Sugui and Z. Wang 1515 Critical current density and irreversibility behaviour in Ag-sheathed Bi-based superconducting wires fabricated using a controlled melt procedure
- W. L. Carter, G. N. Riley Jr, J. S. Luo, N. Merchant and V. A. Maroni 1523 Stability and growth of the $(\text{Bi,Pb})_2\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_x$ phase in a silver sheath
- E. E. Hellstrom, R. D. Ray II and W. Zhang 1535 Phase development and microstructure in Bi-based 2212 Ag-clad tapes processed at 880, 890 and 905°C: the Cu-free phase and $(\text{Sr,Ca})\text{CuO}_2$
- Ming Xu, J. Polonka, A. I. Goldman, D. K. Finnemore and Stuart McKernan 1547 Growth of precipitates in $\text{Bi}_2\text{Sr}_2\text{Ca}_1\text{Cu}_2\text{O}_8$

XVI. Device Applications

- E. Belohoubek, D. Kalokitis, A. Fathy, E. Denlinger, A. Piqué, X. D. Wu, S. M. Green and T. Venkatesan 1555 High temperature superconducting components for microwave systems
- Katsumi Suzuki, Shuichi Fujino, Tsuyosi Takenaka, Keiichi Yamaguchi, Tadataka Morishita, Kazuo Imai, Fumiyasu Suginoishi, Norihiko Yazawa and Mineo Kobayashi 1575 High Tc superconductor microwave resonators and filters
- R. Weigel, A. A. Valenzuela and P. Russer 1595 YBCO superconducting microwave components
- G. Subramanyam, V. J. Kapoor, C. M. Chorey and K. B. Bhasin 1605 TlCaBaCuO high Tc superconducting microstrip ring resonators designed for 12 GHz
- A. A. Valenzuela, G. Sölkner, J. Kessler and P. Russer 1615 Surface resistance and magnetic penetration depth of structured $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ -thin films
- W. Rauch, A. A. Valenzuela, G. Sölkner, F. Fox, H. Behner, G. Gieres and E. Gornik 1633 Coplanar waveguide and epitaxial $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}/\text{NdAlO}_3/\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ -trilayer transmission line resonators for microwave applications
- Y. Tarutani, T. Fukazawa, U. Kabasawa, A. Tsukamoto, M. Hiratani, M. Okamoto and K. Takagi 1645 Transport characteristics of 1-2-3 type oxide S-N-S junctions
- G. Friedl, M. Seitz, B. Roas, B. Hillenbrand, D. Uhl, B. Stritzker, F. Bömmel, G. Daalmans and H. E. Hoenig 1653 Step edge junction $\text{YBa}_2\text{Cu}_3\text{O}_x$ dc SQUID at 77 K

- L. Doerrer, F. Schmidl, P. Seidel,
E. Heinz, K. Zach, H. Schneidewind,
J. Borck, S. Linzen and H. Toepfer 1665 High- T_c thin film Josephson junctions and dc-SQUIDs
- R. Wunderlich, J. Langer, J. Koriath,
B. Meyer and J. Müller 1675 SQUIDs and multi-turn input coils of YBaCuO for integrated SQUIDs
- Halina K. Niculescu and Peter J. Gielisse 1681 High sensitivity superconducting sensor for direct measurement of flux density
- Poster Session*
- Kwang-Yong Kang, Jeong Dae Suh,
Chong Yong Lee, Gun Yong Sung and
Ahn Dal 1691 Fabrication and characterization of high- T_c superconducting bandpass filter made on MgO and LaAlO₃
- B. V. Vasiliev 1699 High temperature ceramic rf-SQUIDs
- T. Porjesz, S. Leppävuori, T. Kokkomäki
and A. Uusimäki 1707 Magnetic field controlled superconducting microwave microstrip resonators
- S. Zhgoon and M. Lvov 1715 Compatibility of HTc superconductor technology with SAW technique

XVII. Power/Energy Applications

- I. Kirschner, S. Leppävuori, A. C. Bódi,
A. Uusimäki and I. Dódoný 1721 Direct measurement of inhomogeneous superconducting-normal transition in high- T_c compounds
- S. Masuyama, H. Yamamoto and
Y. Matsubara 1727 NbTi split magnet directly cooled by cryocooler
- Noboru Higuchi, Katsuyuki Kaiho,
Itaru Ishii, Seiji Sekine, Naotake Natori,
Kazuaki Arai, Harehiko Nomura,
Hiroshi Tateishi, Toshitada Onishi,
Mikio Kumagai and Toshiyuki Aiba 1731 A study on stabilities of rotating magnets for superconducting generators
- I. Kirschner 1741 Physical and constructional principles for high- T_c superconducting magnets
- S. Leppävuori, T. Porjesz, J. Hagberg,
Gy. Kovács and A. Uusimäki 1751 A new pulse method for determining transport critical current of superconducting films
- Bengt Loberg, John Niska and Per Rubin 1757 Measurements of the self-field limitations of the critical current in Bi-2223 superconductive bars
- K. V. Rao, J. Nogués, B. M. Moon and
Z. Iqbal 1763 Functional properties of single crystals and laser deposited thin films of cubic BKBO superconductors

- Ermate Antolini and Maurizio Ferretti 1773 Preparation and characterization of superconducting $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ thick films from powder of non-homogeneous particle size
- I. Kirschner 1785 Requirements and results of high- T_c superconducting wire and tape fabrication

XVIII. Medical Applications

- S. Schneider, K. Abraham-Fuchs, H. Seifert and H. E. Hoenig 1791 Current trends in biomagnetic instrumentation
- O. Dössel, B. David, M. Fuchs, J. Krüger, K.-M. Lüdeke and H.-A. Wischmann 1813 A 31-channel SQUID system for biomagnetic imaging
- S. Pittard, P. Feenan and W. Vennart 1827 Superconducting magnets for magnetic resonance imaging
- I. L. McDougall and P. E. Hanley 1841 High temperature superconducting magnets for NMR
- J. F. Eastham, A. S. Hall, N. McN Alford, R. Hill-Cottingham, R. Akmes and I. R. Young 1849 Preliminary investigation of the utility of high temperature superconductor as a means of stabilising a resistive NMR magnet
- S. J. Penn, N. McN Alford, A. S. Hall, T. W. Button, R. Johnstone, S. J. Zammattio and I. R. Young 1855 Design of rf receiver coils fabricated from high temperature superconductor for use in whole body imaging equipment

XIX. Computer Applications

- Atsuki Inoue, Seigo Kotani, Takeshi Imamura and Shinya Hasuo 1863 Niobium based Josephson circuit technology
- Shuichi Tahara and Shuichi Nagasawa 1879 Large scale integration for high-speed Josephson random access memory
- K. Nakajima, Y. Mizugaki, T. Yamashita and Y. Sawada 1893 Superconducting neural computer
- Mutsuo Hidaka and Lex A. Akers 1907 A superconducting neural cell suitable for large scale neural networks
- Stephen M. Schwarzbek, R. A. Davidheiser, J. A. Luine, N. J. Schneier, G. R. Fischer and G. J. Chen 1921 Applications to digital logic of YBCO dc SQUIDS
- U. Kawabe 1937 Summary of panel discussion on computer applications of superconductivity

XX. General Poster Session

- L. Hanlon, C. Bradshaw, C. Crowley, D. Melody, G. O'Sullivan and B. McBreen 1939 Silver substitution for copper in $\text{Y}_1\text{Ba}_2\text{Cu}_3\text{O}_{7-y}$

- Edward Siegel, A. Smith, E. Dinn,
E. Zeller and G. Dreschoff
- 1949 Hydrocarbon polymeric quantum-confinement quantum-wires embedded in diamond via proton-lithography ion-implantation chemical-reaction di... poly-acetylene: nano-electronics & nano-photonics interconnects embedded in optimal heat-sink alternative to gigascale Si integration? Very-high- T_c hyper-(if not super)-conductivity???
- P. Mukhopadhyay, D. Holland,
M. E. Yakinci, A. Durbha and S. Orpe
- 1961 Bi-Pb-Ca-Cu-O superconductor films on single crystal garnet substrates
- Hansheng Guo and Jincang Zhang
- 1973 Synthesis of $YBa_2Cu_3O_8$ ceramics at one atmosphere pressure in oxygen
- Hansheng Guo
- 1981 An opposite dependence of T_c on quenching in $YBa_2Cu_3O_8$
- Jincang Zhang, Aisheng He, Yusheng He,
Yujing Huo, Fengqi Liu and Shixun Cao
- 1987 Preparation, structure and properties of Bi-based superconducting fibers grown by laser-floating-zone-growth method
- M. R. Predtechensky, A. V. Bulgakov,
A. P. Mayorov and A. V. Roshchin
- 1995 Substrate surface effect on the laser-induced plasma characteristics for thin film deposition
- M. R. Predtechensky, A. N. Smal',
B. A. Kolesov and V. P. Ivanov
- 2005 Oxygen transfer ways for the laser deposition in-situ of the oxide HTSC films
- M. R. Predtechensky and A. P. Mayorov
- 2011 Expansion of laser plasma in oxygen at laser deposition of HTSC films: theoretical model

AUTHOR INDEX

- Abeles R., 1043
 Abraham-Fuchs K., 1791
 Agrawal B. K., 351, 405, 427, 437, 445
 Agrawal S., 351, 405, 427, 437, 445
 Ahn Dal, 1691
 Ai-Kang Li, 199
 Aiba T., 1731
 Aisheng He, 1987
 Akers L. A., 1907
 Akmes R., 1849
 Aldica G., 693
 Alford M., 913
 Alford N. McN, 1849, 1855
 Allen D. C., 1471
 Alvarez G., 1043
 Anderson M. T., 493
 Andreone D., 1333
 Antolini E., 1773
 Anzin V. B., 467
 Apte P. R., 1
 Arai K., 1731
 Ariel Y., 827
 Arndt D., 1349
 Aron P., 1231
 Azoulay J., 859
 Azukizawa T., 1185
 Azuma M., 479

 Babushkina N., 359
 Baenitz M., 901
 Bailey A., 1043
 Balkin D., 71
 Barnole V., 581, 761
 Basic I., 519
 Baumann P. D., 1395, 1399
 Baumann T., 333
 Behner H., 1633
 Bell S., 13
 Bennett R. J., 7
 Belohoubek E., 1555
 Bhasin K. B., 1341, 1605
 Bhasin K., 1349
 Bichile G. K., 1227
 Bloom I. D., 81
 Bódi A. C., 1721
 Bookholt M., 1033
 Bömmel F., 1653
 Boom R. M., 1403, 1417
 Borck J., 1665
 Bourges P., 293
 Bradshaw C., 1939
 Brničević N., 519
 Bruynseraede Y., 269, 391, 411
 Brylewski T., 737
 Buck G. M., 1303
 Buckley J. D., 1251, 1303, 1363
 Bulgakov A. V., 1995
 Buoncristiani A. M., 1363
 Burlet P., 293
 Bush T. O., 1471
 Button T. W., 1855

 Carlberg I. A., 1251
 Carmona F., 1015
 Carter W. L., 101, 1523
 Caton R., 1363

 Chakrapani V., 71
 Chan-Joong Kim, 807
 Chari S., 1227
 Chen G. J., 1921
 Chen I. G., 1145
 Chen N., 81
 Chiang C. K., 109
 Chiba M., 1139
 Chibante F., 913
 Chong Yong Lee, 1691
 Chorey C. M., 1605
 Chorey C. Z., 1341
 Christen D. K., 371
 Chu W. K., 1259
 Chulkin E. P., 399
 Ciontea L., 677, 853, 1219
 Coey J. M. D., 1103
 Cohen R. E., 251
 Conder K., 333
 Connolly D. J., 1231
 Coombes R. W., 1471
 Crowley C., 1939
 Cabbage C. D., 1341
 Curl R. L., 869
 Cyrot M., 925

 Daalmans G., 1653
 Dagle J. E., 1425
 Daguet C., 627, 761
 Dai X., 451
 David B., 1813
 Davidheiser R. A., 1921
 Dawley J. T., 81
 DeGuire M. R., 81
 De Steese J. G., 1425
 Decher R., 1265
 Demyanov S., 1059
 Denlinger E., 1555
 Dhallé M., 391, 411
 Diener M., 913
 Dinn E., 1949
 Dódoni I., 1721
 Doerr L., 1665
 Dong-Yeon Won, 191, 807
 Donggeu Ko, 1099
 Donglu Shi, 61, 151
 Dorris S. E., 81
 Dössel O., 1813
 Dou S. X., 25, 1515
 Dravid V. P., 141
 Dreschoff G., 1949
 Drotbohm P., 1043
 Durbha A., 1961

 Eastham J. F., 1849
 Easwar K., 1
 Eckhardt H., 1193
 Elefant D., 1033
 Elschner S., 1193
 Er G., 487
 Ewert S., 1033

 Fargason C., 913
 Fathy A., 1555
 Fedorov I. V., 467

 Feenan P., 1827
 Fengqi Liu, 1055, 1987
 Ferretti M., 1773
 Finch A. A., 511
 Finnemore D. K., 53, 1547
 Fiorani D., 935
 Firat T., 559
 Fischer G. R., 1921
 Flanagan S., 913
 Flandrois S., 1015
 Flippen R. B., 1071
 Flodström A., 779
 Flückiger R., 709
 Forsthuber M., 519
 Fournier T., 581
 Fox F., 1633
 Franse J. J. M., 961
 Freiman S. W., 109
 Friedl G., 1653
 Fruth V., 693
 Fuchs M., 1813
 Fueki K., 549
 Fujino S., 1575
 Fukazawa T., 1645
 Futaki N., 645

 Gao Y., 131
 Gärtner S., 901
 Gatskaya V., 1029
 Gauss S., 1193
 Gerber A., 961, 985
 Gergen P., 279
 Ghivelder L., 995
 Gianino C. A., 93
 Gielen L., 391
 Giellisse P. J., 1681
 Gieres G., 1633
 Giurgiu A., 853, 1213, 1219
 Gokcen N. A., 19
 Goldman A. I., 53, 1547
 Golkowski C., 1175
 Goodchild M. S., 7
 Goretta K. C., 33, 131
 Gornik E., 1633
 Gorshunov B. P., 467
 Gou Y. S., 815
 Goyal N., 1
 Green S. M., 1555
 Grenet T., 925
 Griessen R., 835
 Grishin A. M., 667, 779, 971
 Grivel J. C., 709
 Grover A. K., 1115
 Groß J., 279
 Gruen D. M., 101
 Grzeta B., 519
 Gun Yong Sung, 1691
 Gundakaram R. C., 535
 Güntherodt G., 269
 Guo Y. C., 25, 1515
 Gusakov G. V., 667, 779
 Gupta L. C., 1
 Gye-Won Hong, 807

 Haertling G. H., 1363
 Hai-Woong Park, 157

- Hagberg J., 1091, 1751
 Haldar P., 1503
 Hall A. S., 1849, 1855
 Han S. H., 451
 Haner J. M., 1425
 Hanley P. E., 1841
 Hanlon L., 1939
 Hansheng Guo, 1055, 1973, 1981
 Hash M. C., 81
 Hashimoto M., 1139
 Hasuo S., 1863
 Hee-Gyoun Lee, 191, 807
 Heinz E., 1665
 Hellstrom E. E., 1535
 Henry J. Y., 293
 Hensel B., 709
 Hicks L. P., 1303
 Hidaka M., 1907
 Higuchi N., 1731
 Hill-Cottingham R., 1849
 Hillenbrand B., 1653
 Hilscher G., 519
 Hirabayashi M., 503
 Hiratani M., 1645
 Hiroi Z., 479
 Hirota N., 635
 Hoehn J., 1503
 Hoenig H. E., 219, 1653, 1791
 Holesinger T. G., 121
 Holland D., 1961
 Holtzberg F., 323
 Holubar T., 519
 Hong B.-S., 109
 Hong Zhang, 141
 Hooker M. W., 1251, 1303, 1363
 Hou L., 1279
 Hseih M. C., 815
 Hsu C.-H., 19
 Hu Q. Y., 1515
 Huang Y. T., 527
 Hwang N. M., 109

 Idemoto Y., 549
 Ihara H., 503
 Iijima Y., 645
 Ikeno Y., 645
 Ikuta H., 635
 Imai K., 1575
 Imamura T., 1863
 In-Soon Chang, 807
 Inoue A., 1863
 Inyushkin A., 359
 Iqbal Z., 1763
 Irvine J. T. S., 511
 Ishibashi S., 503
 Ishii I., 1731
 Ivanov V. P., 2005

 Jadhav K. M., 1227
 Jeong Dae Suh, 1691
 Jeremie A., 709
 Jilek E., 333
 Jin X. J., 1515
 Jincang Zhang, 1055, 1973, 1987
 Jirsa M., 835
 Johnson M. S., 1313
 Johnstone R., 1855
 Jonckheere R., 391
 Ju Yeol Lee, 1099
 Juang J. Y., 815
 Jun-Ichi Shimoyama, 43
 Junzheng Liu, 1055

 Kabasawa U., 1645
 Kadowaki K., 43
 Kaiho K., 1731
 Kaldis E., 333
 Kalokitis D., 1555
 Kanamaru F., 487
 Kanowski M., 901
 Kapoor V. J., 1605
 Karasak V., 1349
 Karpinski J., 333
 Kaufman D. Y., 81
 Kawabe U., 1937
 Kawecki T. G., 1313
 Kazin P. E., 1007
 Kelliher W. C., 1251
 Kerboeuf S., 761
 Kerchner H. R., 371
 Kessler J., 1615
 Khabashesku V., 913
 Khalil A. E., 1081
 Kikkawa S., 487
 Kirchmayr H., 519
 Kirschner I., 1721, 1741, 1785
 Kishio K., 567, 635
 Kitaguchi H., 43
 Kitazawa K., 567, 635
 Klein L., 323
 Kobayashi M., 1575
 Kohno O., 645
 Kokkomaki T., 1707
 Kolesov B. A., 2005
 Konczykowski M., 323
 Koren G., 323
 Korenivski V. N., 971
 Koriath J., 1675
 Kostadinov I. Z., 223
 Kotani S., 1863
 Kovács Gy., 1751
 Kozlov G. V., 467
 Krakauer H., 251
 Kranyecz T., 13
 Krätschmer W., 901
 Kraus M., 901
 Kreid D. K., 1425
 Krishen K., 1349, XVII
 Krüger J., 1813
 Kuberkar D. G., 1227
 Kulagina T. N., 399
 Kulkarni R. G., 1227
 Kumagai M., 1731
 Kumakura H., 43
 Kumar D., 1061
 Kumar R., 1061, 1115
 Kumar S., 351
 Kupperman D., 1175
 Kurochkin L., 1029
 Kusmartsev F. V., 1019
 Kuznetsov A., 947
 Kwang-Yong Kang, 1691

 Łada T., 591, 599, 745
 Lacquaniti V., 845, 1333
 Lagués M., 755
 Lai T. C., 815
 Lamb M. A., 1259
 Lanagan M. T., 81
 Lang H. P., 333
 Langer J., 1675
 Lapertot G., 293
 Lawler J. F., 1103
 Lay K. W., 371
 Lebedev S. P., 467
 Lee M. H., 815

 Leigh H. D., 1303
 Leonard R. F., 1341, 1349
 Leppävuori S., 1091, 1707, 1721, 1751
 Lewicki A., 1279
 Li J. N., 961
 Lichtenberg C. L., 1313
 Lifang Hou, 1279
 Linzen S., 1665
 Litzler A., 761
 Liu H. K., 25, 1515
 Liu J., 1145
 Liu R. S., 527
 Loberg B., 1757
 Lu S. W., 527
 Lüdeke K.-M., 1813
 Lüders K., 901
 Luine J. A., 1921
 Lukina M. M., 269
 Luo J. S., 101, 1523
 Lvov M., 1715

 Ma K. B., 1259
 Maeda H., 43
 Maggi S., 845, 1333, 1373
 Malik S. K., 1061, 1115
 Malnar R. J., 1471
 Mamedov T. A., 399
 Margrave J. L., 867
 Maroni V. A., 101, 1523
 Marsh A. M., 7
 Marta L., 677
 Mason T. O., 109
 Masuda M., 1403, 1417
 Masuyama S., 1727
 Matsubara Y., 1727
 Mayorov A. P., 1995, 2011
 McBreen B., 1939
 McDougall I. L., 1841
 McElfresh M. W., 1279
 McGinn P., 71
 McKernan S., 1547
 McMichael C. K., 1259
 Mehring M., 279
 Mellet R., 627
 Melody D., 1939
 Menichetti E., 1373
 Menovsky A. A., 961
 Merchant N., 101, 1523
 Merkle K. L., 131
 Metlushko V., 269
 Meyer B., 1675
 Meyers W. J., 1313
 Michor H., 519
 Miller D. J., 121
 Ming Xu, 53, 1547
 Mizugaki Y., 1893
 Molchanova L., 359
 Moliński R., 591, 599, 745
 Monnereau O., 581
 Monticone E., 845, 1333
 Moon B. M., 1763
 Moon F. C., 1175
 Moorjani K., 227
 Morawski A., 591, 599, 745
 Morin D., 581, 761
 Morishita M., 1185
 Morishita T., 769, 1575
 Morita M., 1139
 Moshchalkov V. V., 269, 391, 411
 Motowidlo L. R., 1503
 Mukhin A. B., 779
 Mukhopadhyay P., 1961
 Müller J., 1675

Murakami M., 229, 1157
Myers W. E., 1425

Nagano T., 567
Nagasawa S., 1879
Nakahara T., 177, 213
Nakajima K., 1893
Nakayama Y., 567, 635
Namgung C., 511
Narayanan R., 1145
Natori N., 1731
Negi J. S., 405, 427, 445
Neumeier J. J., 1279
Neuttiens G., 391
Ngo P., 1349
Niculescu H. K., 1681
Nikonov A. A., 419
Nisenoff M., 1313
Niska J., 1757
Nogués J., 1763
Nolt I., 1363
Nomura H., 1731
Nomura K., 43

O'Brien J., 1099
Obot V., 1145
Oesterreicher H., 1099
Ogasawara T., 1139
Ogiwara H., 1185
Okamoto M., 1645
Onabe K., 645
Onishi T., 1731
Orpe S., 1961
Os'kina T. E., 1007
Ossandon J. G., 371
O'Sullivan G., 1939
Oudet X., 381
Ovshinsky S. R., 263
Ozhogin V., 165, 359
Özcan Ş., 559
Özdaş E., 559

Pachla W., 591, 599, 745
Pandey R. K., 1289
Paszewin A., 591, 599, 745
Patton A. D., 1435
Peltzer A. R., 1313
Penn S. J., 1855
Perin A., 709
Perin R., 1487
Peter M., 1205
Peters P. N., 1265
Petrisor T., 677, 853, 1213, 1219
Pickett W. E., 251
Pinto R., 1, 1061
Piqué A., 1555
Pittard S., 1827
Plakida N. M., 231
Planinić P., 519
Poeppel R. B., 33, 81
Poeppelmeier K. R., 493
Polonka J., 53, 1547
Porjesz T., 1707, 1751
Predtechensky M. R., 793, 1995, 2005, 2011
Price G. E., 1313
Primot J., 581
Przybylski K., 737
Pureur P., 995
Püst L., 835
Puźniak R., 653

Raffoul G., 1349
Raibagkar R. L., 1227
Raina K. K., 1289
Raizman A., 827
Rao A. S., 607, 725
Rao D. K., 1265
Rao K. V., 653, 971, 1763
Rauch W., 1633
Ray II R. D., 1535
Regnault L. P., 293
Reich S., 995
Régi F. X., 627
Ren Y. R., 1145
Ren Z. J., 451
Renk K. F., 467
Riley J., 1503
Riley G. N. Jr., 101, 1523
Rinaudo G., 1373
Roas B., 1653
Roche E., 913
Rodrigues P. Jr., 995
Rogacki K., 1205
Romanofsky R. R., 1231, 1341
Ropers B., 1015
Roshchin A. V., 1995
Rossat-Mignod J., 293
Rossel C., 333
Rotter S., 827
Rubin P., 1757
Rubtsov V., 1133
Russell G. J., 1043
Russer P., 1595, 1615
Rynes J. C., 93

Sadakata N., 645
Sadowski W., 1205
Salem-Sugui S., 1515
Sales B. C., 371
Sanger P. A., 1471
Sarkar B. K., 1
Savary H., 627, 761
Sawada Y., 1893
Sawyer J., 883
Schaudy G., 519
Scheidt E.-W., 901
Schieber M., 827
Schlögl R., 901
Schmidl F., 1665
Schmidt A., 1033
Schnack H. G., 835
Schneck J., 581, 627
Schneider S., 1791
Schneidewind H., 1665
Schneier N. J., 1921
Schoenung S. M., 1443
Schutzmann J., 467
Schwartz J., 93
Schwarzbeek S. M., 1921
Schwer H., 333
Seidel P., 1665
Seifert H., 1791
Seitz M., 1653
Sekine S., 1731
Selim R., 1363
Selvaggi J. A., 13
Sengupta S., 151
Sheikh A. B., 511
Shekhter R. I., 1123
Sheng Z. Z., 207
Shi D. L., 1515
Shi Y., 131
Shimoyama J.-I., 43
Shixun Cao, 1055, 1987

Siegel E., 1949
Sinha S. N., 157
Sisk R. C., 1265
Smal' A. N., 2005
Smith A., 1949
Smith M. E., 151
Solayappan N., 1289
Sölkner G., 1615, 1633
Soon-Dong Park, 807
Sosulnikov M. I., 457
Sotnikov G. V., 419
Stan M., 1231
Starchenko I., 1029
Stellmach F., 1033
Steni R., 845, 1333
Stepankin V., 947, 1133
Straube E., 901
Stritzker B., 1653
Strobel P., 581
Subramanyam G., 1605
Suginoshita F., 1575
Sun Y. R., 371
Suryanarayana S. V., 535
Suzuki K., 1575
Sulkowski C., 1205

Tahara S., 1879
Taiariol F., 1333
Tajima S., 313
Takagi K., 1645
Takano M., 479
Takenaka T., 1575
Taldenkov A., 359
Tanabe N., 645
Tanaka M., 879, 1139
Tani B. S., 101
Tarnawski Z., 961
Tarutani Y., 1645
Tateishi H., 1731
Taylor K. N. R., 1033, 1043
Taylor R. D., 1099
Taylor T. D., 1303
Tebbi H., 755
Tejada J., 935
Terada N., 503
Testa A. M., 935
Teterin Yu. A., 457
Thompson J. R., 371
Tkaczyk J. E., 371
Toepfer H., 1665
Togano K., 43
Tolédano J. C., 581, 761
Tomioka Y., 567
Tompkins J. C., 1471
Tomy C. V., 1115
Tonković M., 519
Tretyakov Y. D., 1007
Tsai M.-J., 527
Tsukamoto A., 1645

Uen T. M., 815
Uhl D., 1653
Ülkü D., 559
Ulyanov A. N., 667, 971
Urban E. W., 1265
Uusimäki A., 1091, 1707, 1721, 1751
Vacquier G., 581
Valenzuela A. A., 1595, 1615, 1633
Van Haesendonck C., 391
Vanoio M., 1373
Vasilev B. V., 1699
Vasquez P., 1303

- Vatnik S. M., 1379
 Vengalis B., 779
 Venkatesan T., 1555
 Vennart W., 1827
 Verkhovskii S., 279
 Veselago V., 1133
 Vettier C., 293
 Vieth H. M., 901
 Vijayaraghavan R., 1, 1061
 Viret M., 755, 1103
 Vlasse M., 1265
 Vloeberghs H., 391
 Volkov A. A., 467

 Walker E., 1205
 Walker M. S., 1503
 Wang Z., 151, 1515
 Wei-Kan Chu, 217
 Weigel R., 1595
 Weinstein R., 1145
 Wendin G., 1123
 Werner H., 901

 Wilson L. J., 913
 Winzek N., 279
 Wischmann H.-A., 1813
 Wise S. A., 1251, 1303, 1363
 Wolfus Y., 323
 Wolff S., 1457
 Wu C.-T., 33, 131
 Wu J., 1145
 Wu K. H., 815
 Wu S., 93
 Wu S. F., 527
 Wu X. D., 1555
 Wunderlich R., 1675

 Xu J., 1145
 Xu X. Z., 755

 Yacoby E. R., 323
 Yadav P. S., 351, 405, 427, 445
 Yakinci M. E., 1961
 Yakovets Yu., 1133

 Yakubovskii A., 279
 Yamaguchi K., 1575
 Yamamoto H., 879, 1139, 1727
 Yamashita T., 1893
 Yazawa N., 1575
 Yeshurun Y., 323
 Yoshiyama N., 879
 Young I. R., 1849, 1855
 Yujing Huo, 1982
 Yusheng He, 1987

 Zach K., 1665
 Zagoskin A. M., 1123
 Zaharescu M., 677, 693
 Zakharchenko I. V., 653
 Zammattio S. J., 1855
 Zeller E., 1949
 Zhang H., 141
 Zhang W., 1535
 Zhernov A. P., 399
 Zhgoon S., 1715

